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Groupcall XVault First Line User Guide

XVault Version

This user guide applies to Groupcall XVault version 1.2.3 (2011-08)

Version Control

	Date	Author	Notes
1	11/08/2011	Becky Thornton	
2	2011-08-16	Tim Verlander	Added additional first line details, overview.

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About Groupcall XVault

This section introduces Groupcall XVault and explains what it does, how to install it and how to get data into and out of it.

What is Groupcall XVault

Groupcall XVault is a data aggregation tool; it collects data from multiple disparate sources using the SIF data model[1] and optionally also the SIF data transport. It provides easy access to collated data for analytical, monitoring and reporting purposes.

How does Groupcall XVault work?

Groupcall XVault operates by periodically initiating data collections from providing clients, such as school MIS systems, and by processing change events raised by clients. The periodic data collections are controlled by the scheduler in XVault which allows for data collections to be scheduled:

- Every *n* hours
- At a specific time daily
- Randomly between two specific times daily
- At a specific or random time on one or more specific days

XVault stores all received data in an SQL database which can be interrogated both by web services and by SQL views, depending on the nature of the querying software.

What does XVault collect?

XVault supports a significant subset of the UK SIF data specification, and can collect in any or all of the following areas depending on configuration:

- Core Student data, including photographs
- Extended Student data, such as SEN, Behaviour, Exclusions and Free-School Meal Entitlement[2]
- Core Staff data
- Core Student Contact data
- School groups
- Student Attendance[3]
- Student Assessment
- School term and diary dates
- School timetable

For a full list of supported data objects please see Appendix One.

How does XVault know what to collect?

XVault supports multiple collection templates. Each collection template specifies what SIF data objects to collect, when to collect them and whether to also listen for events generated by the source agents.

XVault supports one collection template per SIF Zone – i.e. one collection template per school.

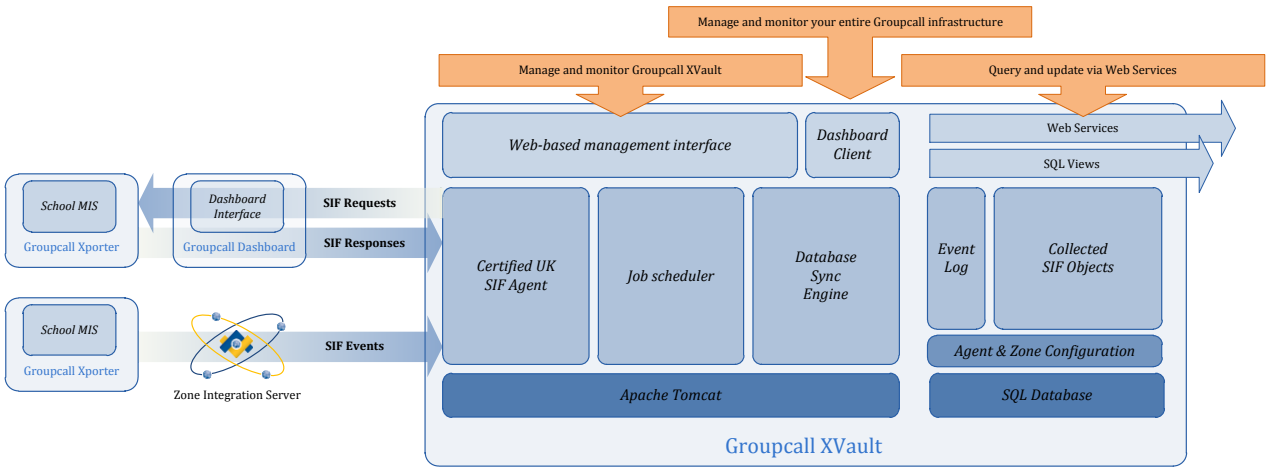
[1] http://www.sifinfo.org/uk
[2] Write-back of Entitlement is supported depending on source MIS and transport. Additional licensing costs apply.
[3] Write-back of Attendance is supported depending on source MIS and transport. Additional licensing costs apply.

How does XVault collect data

Groupcall XVault uses Groupcall Xporter to interface with source data systems such as school MIS systems. The link between each individual Xporter and XVault can be

- SIF Data via Groupcall Dashboard (Non-SIF)
- SIF Data via SIF Zone Integration Server (SIF)

In either case the presentation of data to systems querying XVault is still the same, via Web Services or SQL.



In both configurations XVault will request for the objects in the collection template for each school, using the schedule configured, and await the responses.

What is the difference between XVault Non-SIF and XVault SIF?

Non-SIF XVault allows adoption of the XVault software without the requirement to also invest in a SIF Infrastructure, it is fully forwards compatible with the SIF version but some of the advanced features of XVault require a SIF infrastructure to operate.

XVault	Non-SIF	SIF
Data Objects Supported	As per Appendix One	As per Appendix One
Request / Response	Yes	Yes
SIF Events	No	Yes
SIF Attendance Write-Back	No	Yes[4]
SIF Free School Meal Write-Back	No	Yes[5]
Web Service Access	Yes	Yes
SQL Database Access	Yes	Yes

[4] Subject to destination MIS, use of Groupcall Xporter SIF Agent and SIF Infrastructure. Additional licenses apply.
[5] Subject to destination MIS, use of Groupcall Xporter SIF Agent and SIF Infrastructure. Additional licenses apply.

XVault Data Security

While Groupcall XVault is designed to operate securely and requires authentication to access web servers and the management console, it is advised that additional configuration is made in the operating environment to ensure full platform-level security.

The XVault Database

The XVault database should be located on a physically secure server that is appropriately configured to prevent unintended access. Each system accessing the database requires a separate SQL user account with a strong password. Systems reading data from the XVault database should be constrained to a specific view or set of views per accessing system.

Groupcall recommends that the SQL platform or underlying system is encrypted in order to protect data.

The XVault Application

The server on which the XVault application is installed on should be physically secured and appropriately configured to prevent unintended access. XVault only permits incoming connections to its Web Services interface and to its web-based management console[6]. XVault will make outgoing connections to https://dashboard.groupcall.com/ and to any SIF Zone Integration Server that it is configured to contact.

Although the XVault application does not store any sensitive data locally (only into the XVault Database), Groupcall recommends that the server or underlying system is encrypted to prevent unintended release of the SQL server credentials or SIF SSL private keys.

SSL Encryption

The XVault application runs on top of Apache Tomcat, the current version of Apache Tomcat is 7.0. To enable SSL encryption for the web service and management console it is necessary only to apply the appropriate SSL configuration instructions to Apache Tomcat and restart it.

Non-SIF Message Security

For XVault Zones that are configured without the use of SIF Transport (Non-SIF zones) XVault and the source Xporter installation broker their messages via an SSL connection to Groupcall Dashboard. The collection template assigned to a Zone in XVault is authoritative regarding which objects will or will not be retrieved from the source SIF Agent.

SIF Message Security

All SIF Agents, including XVault, connect to a SIF Zone Integration Server; in live environments this is an SSL connection. A Zone Integration Server (ZIS) partitions school data sources into multiple SIF Zones – each Zone being isolated. A single school SIF Agent connects to each zone and XVault connects to all Zones it has been configured with.

Each Agent in each Zone is allowed to request certain SIF Data Objects; this enforces the collection of data to only those objects supported by data agreement. This configuration denies any data objects configured for collection in the XVault collection template that are not allowed by the Zone, providing an additional tier of data access control and highlighting any requests for data that are outside of the SIF Data Objects permitted.

[6] Except when using SIF push-mode; this requires XVault to open an additional listener for SIF push messages.

Planning an XVault Deployment

This section provides details of how to plan and architect a Groupcall XVault deployment.

Data Requirements

Any deployment should be driven by the data requirements. Determine which SIF objects you need to collect and how frequently, ensure that they are supported by Groupcall XVault (Appendix One) and by Groupcall Xporter (Appendix Two).

SIF or Non-SIF?

XVault supports both SIF and Non-SIF zones.

In SIF zones you will need to have a work SIF Infrastructure and you will need to use Groupcall Xporter SIF Agent to connect schools to your SIF infrastructure. Using SIF zones allows for easy addition of write-back and event driven functionality in the future.

In Non-SIF zones you do not need a ZIS and can use the Xporter Non-SIF Agent to connect and provide data. Non-SIF Zones are cheaper to deploy but require you to follow the upgrade path to SIF zones before you can take advantage of write-back and event driven functionality.

XVault Server Specification

Groupcall advises setting aside dedicated hardware for the XVault server, and provides the following specification as a basis to build from. Note that specification will change based upon what objects are being requested, how often and whether event subscription is enabled.

Scenario	Installations	CPU Cores	Processor	RAM
Testing	Up to **20** schools	Single core	2GHz+	1GB RAM
Production	Up to **150** schools	Two cores	2.5GHz+	2GB RAM
Production	Over **150** schools	Four or more cores	2.5GHz+	3GB RAM+

XVault Software Requirements

XVault requires the following software to operate. Groupcall recommends that the SQL server not operate on the same server as XVault.

Windows Server 2003 SP2, 2008 or 2008 R2; or Windows XP SP3, Vista or Windows 7
Apache Tomcat 6.0 or 7.0, which requires a Java runtime
Access to Microsoft SQL Server 2005[7] or newer using a TCP host:port pair and SQL authentication[8]

[7] We recommend that SQL is offloaded onto a separate server, if SQL is installed on the same server then increase the specification accordingly and cap the maximum memory that the SQL server can utilise.

[8] If connecting to a clustered SQL environment then the TCP port requirement should be particularly considered.

XVault Network Requirements

XVault must be able to contact the following locations in order to operate correctly:

- https://dashboard.groupcall.com/
- http://www.groupcall.co.uk/

In addition XVault must be able to contact any ZIS specified as a zone, if you have a ZIS you will know what the address of it is.

Xporter Deployment

You will need to deploy Xporter to your schools in order to connect them to XVault. Depending on your configuration you will either need Xporter or the Xporter SIF Agent. Either can be installed where the other is already present.

If you have an existing Xporter estate then you may be able to make use of Groupcall Dashboard to facilitate your deployment.

Prior to any Xporter deployment you should consult the Groupcall Xporter First Line User Guide, available at http://www.groupcall.co.uk/firstline/.

Pilot Deployment

Prior to commencing your pilot deployment you should ensure that you have

- A working SIF Infrastructure, if required.
- Installed and configured XVault

Once these steps are completed you can then carry out your pilot Xporter installations and test the data collection. Generally only 3 – 5 schools are required for a pilot deployment.

Deployment Consultancy

Groupcall is happy to provide consultancy services for your XVault deployment. If you wish to enquire further please email sales@groupcall.com.

Installing XVault

Pre-Requisites

Please ensure that the server you are installing XVault onto meets the software and hardware requirements detailed previously in this document.

SQL Configuration

XVault requires that an SQL database is created, typically called XVault, and that it is assigned an SQL user with owner rights to that database.

The SQL server must be configured to support TCP/IP connections, typically via port 1433/tcp.

Prepare XVault Configuration

XVault has two configuration files, one for the XVault application and one for its embedded SIF Agent.

Download the two configuration files as below:

- Agent.cfg.
- Configuration.properties.

Both files must be moved into C:\Program Files\Apache Software Foundation\Tomcat 7.0\Conf\

Agent.cfg

This file configures the XVault embedded SIF Agent and usually doesn't require editing, however if you are doing SIF client authentication or have a non-public SSL trust providing your ZIS SSL certificate then you will need to provide appropriate key store references as detailed in the file.

If you are testing and using HTTP transport then you will need to comment out the <Transport> section in the file.

Configuration.properties

This file configures XVault. You need to at least provide valid SQL connection details in the lines marked:

- DATABASE_USER_NAME
- DATABASE_PASSWORD
- DATABASE_URL

You should also set a username and password for logging into the XVault UI, and similarly for querying the Web Services, in the lines marked:

- USER_NAME
- PASSWORD
- WEBSERVICE_USER_NAME
- WEBSERVICE_PASSWORD

If you are using Non-SIF XVault then you also need to set DASHSIFSECRET using the value will be provided.

If you want to surface the health of your XVault installation in Groupcall Dashboard then you will need to contact Groupcall and request a value to set DASHID to.

Install XVault Application

Once you have met pre-requisites and prepared the configuration, you can install the XVault application.

1. Download the latest Groupcall XVault Installer, you will need to contact your Groupcall Account Manager for the download location.

2. Run the installer, ensuring that you set the correct Tomcat version number in the installation path

3. The installer will stop Apache Tomcat, upgrade or install XVault then restart Apache Tomcat

4. Open your browser[9] and navigate to the default URL - http://localhost:8080/Groupcall/
   - Login with the user credentials you set in configuration.properties
   - If you encounter any errors then please refer to the troubleshooting section.

5. Once logged in you can continue to Configuring a new XVault installation

Configuring a new XVault installation

Having logged in to XVault you are now ready to configure it.

1. On the left there is a Navigation Pane; if this is blank (Fig. 2)the likely cause is a database connection error – see the Troubleshooting XVault section.

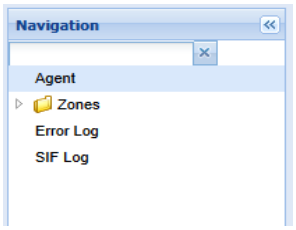


Fig. 1 - Populated Navigation Pane in XVault

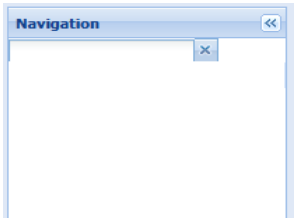


Fig. 2 – Empty Navigation Pane in XVault

2. Select **Agent** from the Navigation Pane
3. Specify the **Agent Name**.
   - This must be a uniquely identifiable name (such as XVault328, using LA number or similar)
   - If you are using Non-SIF XVault then this name will be provided to you.
4. Set the **SIF Version** to 2.3[10].
5. Set the **Log Level** to INFO.

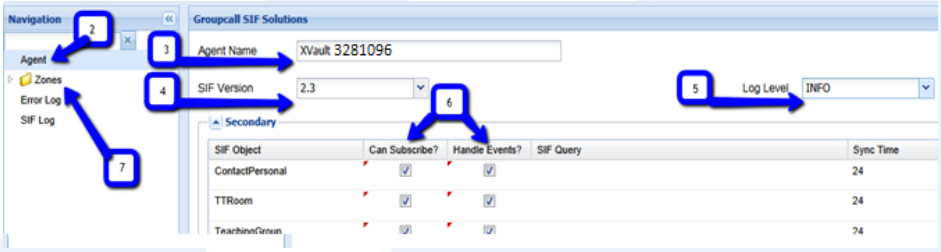


Fig. 3 - Steps 2 - 7

[9] XVault supports the current version and the previous version of most leading web browsers.
[10] Subject to change as newer UK SIF versions are released

You now need to set up the Collection Templates. Primary and Secondary are the default templates and can be customised to your requirements (see Configuring a Collection Template). However the DashNewProvider template must be tied down as this is the template non-SIF schools are automatically assigned.

1. Scroll to the DashNewProvider template
2. Ensure that the "Can Subscribe?" and "Handle Events?" columns are unticked for all objects except for SchoolInfo and LearnerSchoolEnrolment.

XVault is now configured, click Save to apply the settings.

Non-SIF Bootstrap Zone

In order for the Non-SIF functionality in XVault to work it is necessary to connect to a Dashboard bootstrap zone to retrieve configuration. Once you have live zones running you can safely delete or disable this zone, but it is required to detect the first live zone.

i. In the XVault Web Management Interface click on **Zones**
ii. Enter the **Zone Name** as Bootstrap
iii. Enter the **Zone URL** as https://dashboard.groupcall.com/
iv. Enter the **Template** as DashNewProvider
v. Click **Save**
vi. Click on **Agent** in the Navigation menu
vii. Click **Start Agent**

Upgrading XVault

Due to the nature of most deployments XVault does not currently auto-update. When you log into the Web Management Interface you will be advised if a newer version is available. Groupcall recommends that you run the latest version of XVault for all security benefits, bug fixes and access to new features.

To upgrade XVault follow the link in the Web Management Interface and download the install/upgrade tool. Back up your database as necessary then run the installer/upgrader tool which will stop Apache Tomcat, upgrade XVault then start Apache Tomcat.

Using the XVault Web Management Interface

By default the XVault Web Management Interface is accessible via http://localhost:8080/Groupcall/.

The following sections are shown in the XVault Web Management Interface:

- Agent – this is where you configure Agent-specific settings for XVault.
- Zones – lists all configured zones, and the school name if detected.
- Error log – shows any error messages received or generated by XVault.
- SIF Log – shows the current SIF activities being carried out by XVault.

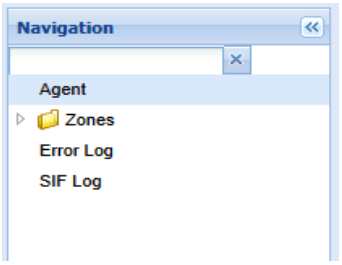


Fig. 4 – Navigation Pane

Agent Configuration

The Agent configuration screen allows you to adjust the verbosity of the agent logging, configure Collection Templates and restart the XVault Embedded SIF Agent without restarting XVault entirely.

Adjusting Agent Logging Verbosity

To increase logging information select Debug, under Log Level. Stop and Start the XVault Agent using the Stop Agent button then clicking again when it turns into the Start Agent button.

The additional logging output will be stored in C:\Program Files\Apache Software Foundation\Tomcat 7.0\Logs\stdout.log

This option generates extensive logging, you should revert to INFO or WARNING as soon as possible and restart the agent.

Restarting the XVault Embedded SIF Agent

The XVault Embedded SIF Agent is used for both SIF and Non-SIF zones.

Click the Stop Agent button and allow up to 30 seconds per configured zone for the embedded agent to stop. When the button changes to say Start Agent, click Start Agent.

Configure Collection Templates

Please see the separate section entitled Configuring Data Collection.

Zones

Clicking on Zones will show you a list of all configured SIF zones. Zones where the school name can be autodetected (i.e. where a SchoolInfo object has been collected) will have the school name shown beside them.

Adding a new SIF Zone

Click on Zones to add a new SIF Zone to XVault. You will need to know the Zone ID and Zone URL from your ZIS operator, and you will need to install Xporter as a data provider in the zone using the same Zone ID and Zone URL. The Xporter installation will need to be on the MIS server for the school that the zone serves.

i. Enter the Zone ID as the **Zone Name**
   a. UK convention sets the Zone ID using the school LEA+Estab numbers, e.g. 1231234
ii. Enter the Zone URL into the **Zone URL** box
iii. Select a **template** to use the agent settings or custom to select the SIF objects
iv. Click Save to save the zone entry

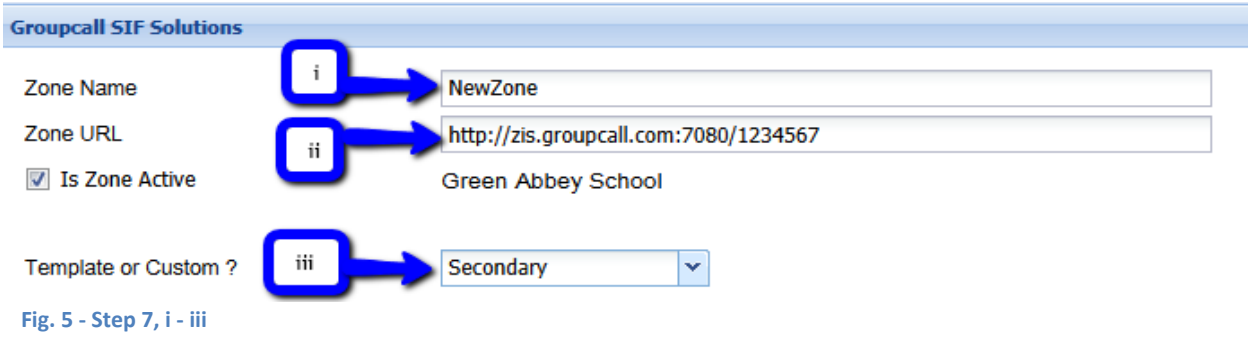


Fig. 5 - Step 7, i - iii

If this is the first zone you have created on XVault then click on Agent and select Start Agent. If not then data collection on the zone will be automatically started.

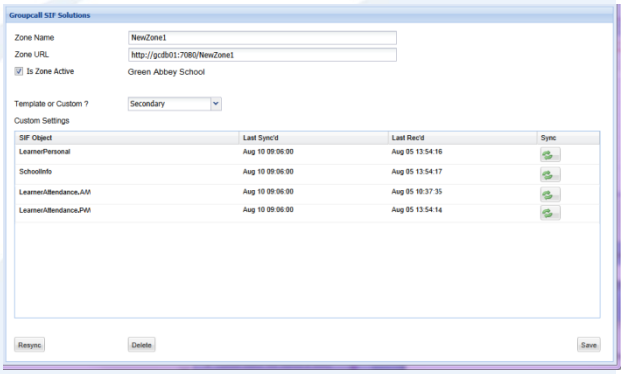
Adding a new Non-SIF Zone

New Non-SIF zones are created automatically by XVault when an Xporter installation reports that it is a provider for the XVault agent.

Once the Xporter installation has registered as a provider to the XVault agent the XVault agent will detect this within an hour and automatically create a zone for it, assigning the DashNewProvider template and commence data collection. If you have followed the recommended configuration then this will result in XVault requesting the SchoolInfo and LearnerSchoolEnrolment objects. As a result the school name should be shown in XVault shortly after the zone is auto-created.

As part of the feedback loop on new installations you should manually migrate schools over to the correct template, using DashNewProvider as a safety net to detect misconfigured installations and/or accidental providers.

View Zone Status



In the Navigation pane click on the Zone you wish to enquire about. The zone configuration page will load and show all SIF Objects configured in the assigned Collection Template.

For each SIF Data Object the page will show the Last Sync'd time, which is the last time XVault requested that object from the zone, and the Last Recv'd time, which is the last time data was received.

Update a SIF Data Object on demand

In the Navigation pane click on the Zone you wish to enquire about. The zone configuration page will load and show all SIF Objects configured in the assigned Collection Template.

Click on the Sync icon for the object you wish to refresh. XVault will request data from the zone and, hopefully(!), the data will be returned. Note that depending on infrastructure and transport this can take up to 15 minutes, you can monitor the progress of the request by viewing the SIF Log.

Rebase a Zone

In the Navigation pane click on the Zone you wish to enquire about. The zone configuration page will load and show all SIF Objects configured in the assigned Collection Template.

Click on the Resync button and confirm. XVault will delete all data held for the zone and will request all data again from the zone.

Disable or Enable a Zone

In the Navigation pane click on the Zone you wish to enquire about. The zone configuration page will load and show all SIF Objects configured in the assigned Collection Template.

Untick **Is Zone Active** to disable the zone and click **Save**. This change will take immediate effect and XVault will disconnect from the zone and stop requesting data. The data already in the XVault Database will be retained.

To re-enable a zone, tick **Is Zone Active** then click **Save**.

Delete a Zone

In the Navigation pane click on the Zone you wish to enquire about. The zone configuration page will load and show all SIF Objects configured in the assigned Collection Template.

Click Delete and confirm. XVault will delete all data held for the zone and permanently remove it. If the zone is a Non-SIF zone and you wish to add it back again at a future date then you will need to add it manually.

Error Log

This will show you a collated view of all error messages received via SIF by XVault and any internal errors raised by XVault along with the date on which they occurred and details of the error.

You should check the Error Log periodically and address any issues that arise. For example you may find error messages indicating that certain SIF objects are not available in a given zone, in which case you should investigate the ACL for that zone and ensure that the Xporter SIF Agent installation for that zone is correctly configured.

The error log is also surfaced in the SQL database so that automated processes can read and monitor it.

SIF Log

The SIF Log shows all current SIF actions along with their associated Zone, SIF Object and unique message identifier.

A message will either show Registration or Deregistration to a zone, or will show a data request being made. Where a data request is made it will show Requested then Processing then Processed. A statistic will show how many packets and records were returned. If a request fails then the error message is shown and also logged to the Error Log.

Data Collection

Configuring a Collection Template

A data collection template is assigned to a zone to detail the SIF objects to be requested and the schedule to carry out those requests. A collection template also determines whether a zone will listen to any SIF data events created by the Groupcall Xporter SIF Agent.

Selecting the SIF Data Objects to Collect

Click on **Agent** in the Navigation pane of the XVault Web then scroll to the Collection Template you wish to configure.

All SIF Objects that are allowed on the XVault are listed in the Collection Template. For each object tick both, either or neither of the two tick boxes accordingly:

- Can Subscribe – this means that XVault will carry out request/response on this object in any zone where this template is applied.
- Handle Events – this means that XVault will subscribe to events and process any events created by the Xporter SIF Agent in any zone where this template is applied.

When completed click Save, this will reassign the template to all zones configured to use it.

Data Collection Schedules

Click on **Agent** in the Navigation pane of the XVault Web then scroll to the Collection Template you wish to configure.

The Sync Time column shows what time XVault will request each SIF object from each zone where this template is applied. A number of options can be entered, by default XVault is set to request every 24 hours from the time the XVault application started.

- Periodic collection – enter a number into the Sync Time column, this will be interpreted as the number of hours between queries. E.g. enter 48 to have data collection every 48 hours.
- Scheduled collection – enter a time to fire the request message at, e.g. enter 13:00 to have the request message sent to each zone at 1pm.
- Scheduled randomised collection – enter two times to give a window for requests to happen within, e.g. enter 13:00-15:00 to have the request message sent at a random time between 1pm and 3pm in each zone. Note the exact time is randomised per zone.
- Day-specific – enter MONDAY:13:00 to have collection at 1pm on a Monday, or enter MONDAY:13:00-15:00 to have a random collection between 1pm and 3pm on a Monday
- Multi-day – Enter schedules separated by commas to have collection on multiple days, e.g. MONDAY:13:00-15:00,WEDNESDAY:13:00-15:00,FRIDAY:12:00-14:00

When completed click Save, this will reassign the template to all zones configured to use it. Collection schedules will only apply where the Can Subscribe box is ticked; this is because it affects the time a request is sent. XVault cannot determine the time that Xporter SIF Agents process requests and deliver responses, or the time that they generate events.

Learner Attendance Collection

The LearnerAttendance SIF data object in XVault collects only today and yesterday's sessional attendance. However it is also useful to collect sessional attendance twice a day, once in the morning and once in the afternoon. For this reason the LearnerAttendance object is defined twice in the default configuration to allow you to set different collection schedules for the LearnerAttendance.AM (e.g. 09:30-10:00) and LearnerAttendance.PM (e.g. 14:30-15:00) objects.

If you require LearnerAttendance to be collected only once a day then collect only LearnerAttendance.AM and enter the schedule to suit your needs. You can just untick the LearnerAttendance.PM object in this case.

Monitoring Data Collection

Groupcall XVault can report its data collection statistics to Groupcall Dashboard, which can then provide an aggregated view of all data collection zones. The aggregated view highlights zones where data has not recently been received and allows you to drill in to get additional information about the number of records held and when they were last received.

If you would like to make use of this functionality please contact sales@groupcall.com.

Troubleshooting XVault

Where to Troubleshoot

As part of a complex infrastructure XVault may report errors that are caused by other components in that infrastructure. When diagnosing any issue you should also investigate the ZIS logs (if present) and the Xporter installation. For the Xporter installation there is the Xporter First Line User Guide, located at http://www.groupcall.co.uk/firstline/, which can aid diagnosis and resolution of the most common issues.

.net Error when accessing Web Management Console

Groupcall XVault is written in Java, running atop the Apache Tomcat platform. If you receive a .net error when accessing Tomcat usually indicates that you're trying to talk to something else other than XVault. Typically this occurs when testing on a SIMS Workstation PC, where the Tomcat port conflicts with the SIMS Document Server; see the instructions in Appendix Three to resolve this problem.

XVault Navigation bar has no entries

This indicates that the SQL connection required by XVault is not working. Confirm the credentials by logging into the SQL server using them and confirm that TCP port 1433 on the SQL server (or alternative port) is accessible from the XVault server.

Correct the Configuration.Properties file accordingly then restart Apache Tomcat to apply the changes.

I need to enter a proxy – where do I enter it?

Proxy settings must be entered into Apache Tomcat, which supports separate proxies for HTTP and HTTPS. Typically the HTTP proxy will be used to access http://www.groupcall.co.uk to check for updates and the HTTPS proxy will be used to connect to https://dashboard.groupcall.com/.

1. Run the Configure Tomcat tool that was installed with the Apache Tomcat application
2. Go to the Java tab
3. Add these additional lines to the Java Options panel, preserving what is already present.
    a. –Dhttp.proxyHost=<proxy server>
    b. –Dhttp.proxyPort=<proxy port>
    c. –Dhttps.proxyHost=<proxy server>
    d. –Dhttps.proxyPort=<proxy port>
4. Click OK then restart Apache Tomcat to apply the settings change.

If you have proxy exclusion requirements then add two lines in this format, adjusting for your IPs:

- -Dhttp.nonProxyHosts=10.*.*.*|172.16.*.*
- -Dhttps.nonProxyHosts=10.*.*.*|172.16.*.*

If you require proxy authentication then run the Tomcat service as a user permitted to access the proxy, with local administrative rights.

Getting Additional Diagnostic Information

The XVault application keeps additional logs when running, the verbosity of which can be adjusted via the XVault Web Management Interface.

These logs are located in C:\Program Files\Apache Software Foundation\Tomcat 7.0\Logs.

- Catalina.log – shows the logs for Apache Tomcat starting the XVault applet.
- Stdout.log – shows the operational output for XVault

Getting Help

In the unlikely event that you run into a problem with your installation then the organisation you need to contact will depend on where the fault lies.

For ZIS errors, you should initially contact your ZIS operator for advice.

For Groupcall Xporter errors you should contact the partner with first line responsibility for Xporter, they will elevate a case to Groupcall if required. Your organisation might be the partner with first line responsibility for Xporter.

For Groupcall XVault errors you can contact Groupcall Xporter Support at xporter.support@groupcall.com If you need to raise a cause with Groupcall then please provide a zip containing all the Stdout.log files in the Logs folder to aid prompt analysis.

Appendix One – XVault Supported Read / Write SIF Data Objects

This information is correct at the date of this version of the documentation. Note that publishing write-back events for supported objects requires:

- An MIS system that supports write-back of the appropriate data
- A SIF agent that supports write-back of the appropriate data
- Licenses to cover the write-back functionality in both the MIS and SIF Agent
- A SIF infrastructure utilising a ZIS; XVault Non-SIF does not support write-back

SIF Object	Groupcall XVault
SchoolInfo	Collect
LearnerPersonal	Collect
ContactPersonal	Collect
LearnerContact	Collect
LearnerSchoolEnrolment	Collect
SchoolGroupType	Collect
SchoolGroup	Collect
LearnerGroupEnrolment	Collect
WorkforcePersonal	Collect
LearnerExclusion	Collect
LearnerSpecialNeeds	Collect
LearnerAttendance	Collect / Publish
LearnerAttendanceSummary	Collect
PersonPicture	Collect
TermInfo	Collect
Cycle	Collect
TTRoom	Collect
Lesson	Collect
TTTeacher	Collect
TeachingGroup	Collect
TTSubject	Collect
AssessmentSession	Collect
AssessmentResultGradeSet	Collect
AssessmentResultComponent	Collect
AssessmentResultComponentGroup	Collect
AssessmentLearnerSet	Collect
LearnerAssessmentResult	Collect
LearnerBehaviourIncident	Collect
LearnerEntitlement	Collect / Publish

Important: Please note that collection of SIF Data Objects via XVault also requires a SIF Agent that is capable of providing them. Please see Appendix Two for data objects supported by Xporter SIF Agent and Xporter Non-SIF.

Appendix Two – Xporter (SIF and Non-SIF) Supported SIF Data Objects

Groupcall XVault uses Groupcall Xporter for data collection from school MIS systems. Therefore the objects available from the school MIS affects what can be delivered into XVault. The table below details the SIF Data objects available per MIS.

SIF Object	Groupcall Xporter		
	SIMS	Facility / ePortal	G2
SchoolInfo	Read	Read	Read
LearnerPersonal	Read	Read	Read
ContactPersonal	Read	Read	
LearnerContact	Read	Read	
LearnerSchoolEnrolment	Read	Read	Read
SchoolGroupType	Read	Read	Read
SchoolGroup	Read	Read	Read
LearnerGroupEnrolment	Read	Read	Read
WorkforcePersonal	Read	Read	Read
LearnerExclusion	Read		
LearnerSpecialNeeds	Read		
LearnerAttendance	Read/Write*	Read/Write*	
LearnerAttendanceSummary	Read		
PersonPicture	Read		
TermInfo	Read		
Cycle	Read		
TTRoom	Read		
Lesson	Read		
TTTeacher	Read		
TeachingGroup	Read		
TTSubject	Read		
AssessmentSession	Read		
AssessmentResultGradeSet	Read		
AssessmentResultComponent	Read		
AssessmentResultComponentGroup	Read		
AssessmentLearnerSet	Read		
LearnerAssessmentResult	Read		
LearnerBehaviourIncident	Read		
LearnerEntitlement	Read/Write*		

* MIS write-back requires Groupcall Xporter SIF Agent attached to a Zone Integration Server and is therefore not available for Non-SIF deployments. Additional Groupcall and MIS Vendor licensing is required to make use of write-back functionality.

Appendix Three – Technical Notes

ZIS Object and Element Filtering

Where a ZIS in in use, it can usually be configured to filter responses by source and/or destination agent in order to prevent undesired data movements.

The ZIS Zone ACLs provide object-level filtering, by denying requests for objects that are not permitted for a given agent.

Many ZIS products also support element level filtering which would allow certain columns (e.g. NI Number) to be removed from data flows being sent to an IdM, or certain rows to be excluded from the returned set (e.g. only LearnerPersonal where InCare is true) being sent to an care management application. This level of filtering is typically managed by source and/or destination agent and data object.

In both the scenarios above neither application should ever request information to which it isn't entitled, to do so would exceed the legally enforceable Data Agreement for the collection and use of the specific data.

SIF Auditing

Groupcall Xporter provides auditing in the SIF Log, which shows messages received via SIF and the responses returned as well as write-back messages received.

Groupcall XVault records the data requests it makes and the outcome of those requests in the XVault Database. Additionally the Apache Tomcat logs carry further detail regarding calls to the Web Services, receipt of data and generation of SIF write-back messages.

Both SQL servers and Zone Integration Servers carry extensive logging and auditing functions.

Port conflict with SIMS Document Server

If you are installing XVault on a SIMS server, perhaps in the course of early testing (see recommendations for XVault installation) there will be a port conflict on port 8080 because both the SIMS Document Server and Apache Tomcat attempt to listen on it. In this testing circumstance, Groupcall advises adjusting the port XVault uses to port 8081 (or similar) via the server.xml file in C:\Program Files\Apache Software Foundation\Tomcat 7.0\conf\.